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SUEZ CANAL.

VOLUME OF TRADE INDICATES GROWTH OF ORIENT—PARALLEL ROUTE NOT LIKELY—RELATIONS TO COMMERCE OF THE PACIFIC OCEAN.

During his visit to Egypt, Special Agent Charles M. Pepper inquired into the operations of the Suez Canal, and furnishes the annexed report, in which facts and figures regarding the operations of the great waterway are supplemented by observations and deductions on the relation which Suez will bear to the future in international trade and especially with the trade of the Far East. Mr. Pepper writes:

Traffic through the Suez Canal offers a means of measuring the world's maritime commerce between the West and the East. If not the sole criterion it is a chief one, since the overwhelming bulk of the trade with the Orient flows through this channel. Its growth signifies that international markets are growing. While the construction of a canal cut through sand banks and not requiring locks may present little in the way of suggestions for the United States in overcoming the engineering difficulties of the Panama waterway, the administration and operation of Suez afford instructive precedents. But the broader field of information is found in the analysis of the traffic, the means the canal company adopts to keep pace with it by providing facilities of transit to meet the rapid and steady advances in shipbuilding, the reduction of freight charges, and the other inducements to draw commerce to the Suez route. In their widest sphere all those factors have an influence on the ultimate mastery of the Pacific. By some authorities it is assumed that the Indian Ocean and the western Pacific are to be the field of battle for supremacy among the mercantile marines of the world, and that in the struggle for the commercial conquest of the seas the Suez Canal will be the controlling force. This view may be accepted as to the Indian Ocean, but its correctness in relation to the Pacific may be questioned. That subject, however, is not of present day importance.

INCREASE IN CARRYING CAPACITY OF VESSELS.

The striking fact in relation to Suez is not so much the growth in the volume of the traffic, though that has been enormous, as the increase in the net tonnage of the vessels passing through the canal. For the year 1905 the increase in the mean tonnage, which was stationary the previous year, was from 3,163 to 3,191 tons. In 1885 the mean tonnage per vessel was 1,747 tons, so that in twenty years the increase was approximately 80 per cent. This is declared to be in line with the principles of modern shipbuilding, which look to the progression in the mean gauge of vessels as one of the essentials of progress in maritime construction. The increase in capacity has been greater than in the number of vessels constructed, the universal tendency also being to augment the interior capacity proportionately more than the ship's dimensions and speed, though the latter features are notable. The saving, it is explained, results from the fact that the cost diminishes in inverse ratio to the vessel's dimensions, and consequently in the class of vessels traversing the canal the cost increases as the square of the linear dimensions, while the benefits are in proportion to capacity or on the cube of the same dimensions—that is, by doubling the dimensions of a vessel the net tonnage becomes eight times greater.

The fact that the early difficulties with compound engines were overcome almost simultaneously with the opening of Suez, and reduced space for the machinery was secured, while high and low pressure engines enabled the steam pressure to be raised so as to double and quadruple the motive power obtainable from a ton of coal, must also be recognized in analyzing the increase in net tonnage and the growth in the volume of traffic through the canal. The facilities for increasing the number of vessels passing were materially enlarged in 1887, when, by means of electric lights, night navigation was allowed, and since then has continued without interruption.

RECORD OF VESSEL MOVEMENT.

The general movement since the opening of the canal may be taken in five-year periods, which make the following exhibit:

Year.	Number of transits.	Gross tonnage.	Net tonnage.	Tonnage of vessels.	
				Average gross.	Average net.
1870	486	435,911	(a)	897	....
1875	1,494	2,940,708	2,009,984	1,968	1,345
1880	2,026	4,344,520	3,057,422	2,144	1,509
1885	3,624	8,985,412	6,335,753	2,478	1,747
1890	3,389	9,749,129	6,890,094	2,877	2,033
1895	3,434	11,833,637	8,448,383	3,446	2,460
1900	3,441	13,699,238	9,738,152	3,981	2,830
1905	4,115	18,308,498	13,132,694	4,449	3,191

[a] Net tonnage was not calculated till 1873; in 1870 it was estimated at 300,000 tons.

War ships and military transports are included in the table. In 1905 the total number of military transports and war ships was 146, with a net tonnage of 369,344 tons. Merchant ships in ballast numbered 167, with a net tonnage of 391,595, as against 2,950 loaded ships of 9,397,969 tons, and 823 mail packets with 2,930,473 tons. The balance of the transits was made up of various minor craft. The number of passengers was 252,693, of whom 142.514 were civilians. Since the toll is 10 francs, or $1.90, per person, this source of income is not inconsiderable. In 1870 the number of passengers of all classes was 26,758, and in 1880, 101,551. In 1890, when the practice of classifying the civilians separately was adopted, they numbered 93,506, out of a total of 161,353. In 1900 the civilian passengers were 128,262 in number.

GOOD RESULTS FROM IMPROVEMENTS.

The measures taken by the canal company for keeping up with the advances in shipbuilding, while not always equal to the demands of the vessel owners, appear to have been fairly adequate, especially since the energetic agitation began by the British shipowners and exporters in 1883, which took on an international character and resulted in the formation of a consultative commission of engineers and shipowners. This association sent a subcommittee to inspect the canal works and report on the improvements which were thought to be necessary. This subcommittee made numerous recommendations for widening the surface of the straight reaches and curves and for deepening the channel to 9 meters.

The canal at the outset had 8 meters (26 feet) depth and 22 meters (73 feet) surface width. It is interesting to recall that the subcommittee was credited with the belief that the proposed deepening of the channel and the other improvements recommended would prove sufficient for all future needs. Yet the improvements under way at the present time have deepened the channel to 10.5 meters, and since the beginning of 1906 vessels with a draft of 27 feet (8.23 meters) have been admitted to navigation, an increase of 9 inches draft over the previous year. This is the outcome of progressive works begun in 1886 for deepening the channel to 8.5 meters. This work was completed in April, 1890, and ships of 7.8 meters draft were admitted to transit. At the same time the widening of the surface by 15 meters, or approximately 50 feet, was commenced and this operation was completed in December, 1898. The two improvements involved the excavation of 22,000,000 cubic meters of earth, mud, and sand, of which one-fifth was done by hand labor. From 1895 the deepening operations continued and in January, 1902, vessels with a draft of 8 meters, or 26¼ feet, were admitted to transit.

During this period the curves were rounded off so as to give increased facilities for the passing of vessels and thereby shorten the time in transit, additional signal stations were established and crossing places fixed at every 5 kilometers, or about 3 miles, with an extra width of 15 meters. During 1905 the excavations in the canal proper in deepening the channel to 10.5 meters amounted to 1,354,588 cubic meters, while the regular works involved the extraction of 1,208,068 cubic meters by hand labor and 918,754 cubic meters by dredges, the latter including 34,800 cubic meters of rock excavation.

IMPROVEMENTS IN PROGRESS.

The improvements now in progress include the definite enlargement by 15 meters from kilometers 61 to Suez, a distance of 50 miles; the extension of the Asiatic curve from Lake Timsah station from 1,200 to 2,000 meters; the broadening of the station from 500 to 800 meters, and the enlargement of the canal surface to 100 meters surface width at the debouches in Great Bitter Lake. The latter works will require the excavation of 6,450,000 cubic meters of earth and will require five years.

While the prevailing winds and the mud nature of the soil at the Red Sea entrance to the canal necessitate continuous dredging to keep the Suez or Port Tewfik channel open, the most extensive permanent improvements are at Port Said, the Mediterranean entrance, where it was necessary to create a harbor. Very extensive improvements are now in progress, and it is the intention to double the size of the harbor. The new basins on the Asiatic or eastern side, which are intended for colliers and petroleum ships, are being dredged. When this work is completed the Abbas basin on the western side, which is now used by the colliers, will be utilized by the general shipping. What is known as the Cherif basin on the western side is being doubled in size and deepened 30 feet, while the plans have been entered upon for the construction of wharves and warehouses. When the Cherif basin enlargement is finished the canal company's workshops will be removed to the Asiatic banks and the land now occupied by them will be dredged away and deepened. The restoration and prolongation of the eastern jetty are now going forward. All these improvements are expected to be completed within the next five years.

The value of the canal company's floating material in 1905 was placed at $5,500,000, including 21 dredges, 27 barges, 8 floating cisterns, and 30 steam launches. At the same time orders had been placed for an additional $1,000,000 worth of machinery and some of these have since been filled. The new floating dock at Port Said was put in service in 1904. The dredging and maintenance works for the canal are carried on by the company, but the Port Said Harbor and other improvements are let by contract.

A SECOND CANAL NOT CONTEMPLATED.

To enable all the improvements planned for the next five years to be carried on, the shareholders of the company at the annual meeting held in Paris in June, voted to increase the loan of 25,000,000 francs, which was authorized in 1901, to 50,000,000 francs. This places approximately $10,000,000 at the disposal of the management in addition to the ordinary revenues which are set aside for maintenance and improvement.

At this meeting Prince D'Arenberg, president of the company, said that the canal should be enlarged and deepened, so as to render collisions and founderings more and more rare, and that the company already had added materially to its wrecking outfit. This was in answer to the suggestion of a second canal, which was made in view of the accident to the *Chatham*, a vessel loaded with dynamite and gunpowder, which during its passage through the canal in September, 1905, caught fire and was abandoned by its crew. The fire was put out by the employees of the company and the ship blown up with much less damage than was anticipated and with great credit to the skill and daring of the employees. The channel was blocked for thirteen days. The suggestion of a second canal in order to avoid such accidents was met with the statement that if one channel could be blocked by an accident the same thing could happen to two channels. From this statement of the president it was made clear that the Suez Canal Company has no intention of digging another canal, and there is no basis of a concession for a rival one. The question of the future, therefore, relates to the ability of the company to keep abreast with the rapid advances in shipbuilding.

CONFLICTING VIEWS AS TO DEPTH AND WIDTH.

Speaking on this subject at the Paris meeting, Prince D'Arenberg referred to the achievement of towing the huge dry dock Dewey through the channel for the United States Government as an illustration of the way in which the canal meets the demands upon it. He also referred to the constant agitation of the shipowners for greater facilities, saying that they were not agreed among themselves, some insisting that the canal was deep enough now and should be widened, while others declared that there was no need of greater width, since what was needed was more depth.

While these conflicting views may be attributed to individuals, yet the shipowners of the world as a body appear to be pretty well united in pressing both for more depth and greater width. The president of the canal company in his report to the stockholders recognized this when he said that the number and size of vessels grows without ceasing. He declared that the policy of the company is to render the passage from the Mediterranean to the Red Sea "more and more easy, more and more rapid, and less and less costly." Yet shipbuilding improvements are so phenomenal that they are hard to keep up with. If the company were to announce that at a given date the channel would be available for vessels of 29 feet draft instead of 27 as at present, on that day an ample fleet with the maximum draft would be waiting entrance.

TIME OF TRANSIT AND QUARANTINE.

The saving of time in transit through the canal is one point which the shipowners are likely to secure. Under the regulations of the company the speed of vessels is limited to 5½ miles per hour, so that for the 88 miles seventeen hours would be required, without allowing for time lost in tying up for the passing of other ships. But a greater speed can be made in traversing Lake Timsah and the Bitter Lakes, and some of the large mail ships in ordinary circumstances count on sixteen hours as the limit, since they are given preference in crossing and do not have to tie up so frequently. The transit and the tying up for crossing are regulated by the central signal station at Ismailia, the chief signal station midway in the canal. Yet sometimes the mail steamers are eighteen hours getting through, while the freight boats are nineteen and twenty hours. These delays are the most frequent causes of complaint and the company is seeking to obviate them by providing greater facilities for crossing.

The system of quarantine now in force on the canal has a deep interest for the countries which still follow the barbarous practice of placing an infected or suspected vessel with crew and passengers in detention. Under the international agreement, to which most of the European nations are parties, they are represented in the quarantine boards stationed at the entrance to the canal, and physicians of various nationalities are included among the health officers. The terms of the Venice convention are observed. As an illustration of the working of the system, a vessel coming through the Red Sea is boarded at Suez by a health officer, and if the papers are regular and no cases of infectious disease exist the vessel proceeds in the regular way. But should there be infection on board the infected cases are removed to the quarantine station at Moses Wells, passengers for Egypt are disembarked at the detention station and remain there the required period for observation, disinfecting apparatus and materials are sent aboard the vessel by means of pontoons, the health officer takes charge, disinfects and fumigates, and the ship proceeds through the canal, whether by night or day, without the loss of an hour. At Port Said the vessel coals in quarantine and proceeds to her port of destination, subject of course to the quarantine regulations there. The shipowners bear all the costs of the canal sanitation, and in case of a wrong diagnosis or of other mistakes they have no means of recovering the expenses incurred. But while in individual instances this is a hardship, the loss is infinitesimal in comparison with the saving to the vast volume of international commerce that traverses the canal without loss from detention.

RATES FOR TRANSIT AND RECEIPTS.

Of equal importance with increased transit facilities, and by many shipowners considered of greater consequence, is the question of the canal tolls or rates. The total receipts of the Canal Company in 1905 were 117,308,000 francs, or about $22,250,000. The total expenses were 40,984,000 francs, leaving a balance of 76,324,000 francs, or approximately $14,675,000 for dividends and other purposes. At the prevailing price of the Suez Canal shares the dividend rate about equals 3 per cent, and shareholders have been clamoring for an increase, while the shipowners, in view of the enormous increase in the value of the original investment, are ceaselessly calling for a reduction in tolls, especially since the growth of traffic is so steady, and since in the case of a canal increased traffic does not augment working expenses very greatly.

The agitation for a reduction of tolls has been persistent almost from the opening of the canal. The original rates were 10 francs per ton, with a reduction of one-fourth for ships in ballast; but when the the company was facing bankruptcy in 1874 these were raised, by means of surtaxes, to 13 francs. On the protest of the British and other shipowners, backed by their respective Governments, the surtaxes were gradually reduced until they were entirely abolished in 1884, when the rate was left at 10 francs per ton. In the same year the pilotage tax was abolished, and the pilots, of whom more than 100 are now employed, have since then been paid by the company. In 1885 the transit dues were reduced to 9½ francs per ton; in 1893 to 9 francs; in 1902 to 8½ francs, and at the beginning of 1906 the new rate of 7¾ francs went into effect, so that the present charge is about $1.48 per ton. The aim of the shipowners is to bring the rate down to 5 francs, or less than $1, by 1912, but the canal company does not hold out the promise that this will be done.

GROSS AND NET TONNAGE.

The reduction from 13 francs in 1874 to 7¾ francs in 1906 is to be understood in connection with the imposition of the toll in the earlier years on the gross register of the vessel. This resulted in the convening of an international commission by the Sultan of Turkey at Constantinople in October, 1873, when the British method of arriving at gross and net tonnage was approved, and what was known as the Danube rule was adopted. Under this decision the toll was levied on the net registered tonnage, but its application by the company has not always been accepted as the correct interpretation of either the Danube rule or the English method. The most recent controversy was over the company's treatment of spaces in shelter decks and deck superstructures of vessels. It required that if at any time a vessel carried cargo or stores in a space for which exemption had been claimed, the tonnage of this space should be added to the certificate and thereafter should not be exempt from measurement. However, some modifications were made in this regulation.

ENGLISH INFLUENCE IN MANAGEMENT.

The largest proportion of the Suez Canal traffic is under the English flag, and the British shipowners usually have been the most active in the agitation for decreased rates and increased transit facilities. Since the purchase of seven-sixteenths of the shares of the company by the British Government through Lord Beaconsfield in 1875, the English influence on the canal board has been a potential one. The Government, however, has not encouraged the shipowners who have claimed that the large dividends received from its shares might be distributed among them as a rebate bounty. Nor does it always fall in line with their views when antagonistic to the canal company. Observation of the operation of the canal on the ground gives one a high opinion of French administrative capacity and executive efficiency. But notwithstanding the international character of the canal, its neutrality, and the interests of the various Governments in everything relating to it, it is owned and operated by a private French company, whose officers largely determine the question of improved transit facilities, tolls, and general policy.

CURRENTS OF INTERNATIONAL TRADE.

The currents of international trade as they have flowed through the canal from year to year with a rising tide are of absorbing interest from the indications they give of the regions in which markets have grown and in which future growth may be expected. The general movement of import and export transit for the regions beyond Suez during the last fifteen years is exhibited in the following table in terms of thousands of tons:

Year.	East coast of Africa and islands.	Bombay and west coast of India.	Calcutta and east coast of India.	Sonde, Siam, Philippines, East Indies, Dutch possessions.	China, Cochin China, Japan.	Australia.	Other regions.	Total.
1890	149	1,988	1,882	879	928	716	348	6,890
1891	219	2,610	2,297	1,113	1,167	799	494	8,699
1892	232	2,083	2,152	966	1,105	795	379	7,712
1893	172	2,239	1,833	1,028	1,231	798	355	7,659
1894	193	2,106	2,242	970	1,347	798	383	8,039
1895	357	2,015	2,417	1,003	1,400	840	416	8,448
1896	269	1,649	2,411	1,085	1,578	871	697	8,560
1897	303	1,269	2,419	1,033	1,705	845	325	7,899
1898	341	2,034	2,652	1,048	1,851	820	492	9,238
1899	378	1,846	2,892	1,265	2,175	922	418	9,896
1900	404	1,128	2,763	1,372	2,756	864	451	9,738
1901	382	1,675	3,106	1,504	2,710	972	475	10,824
1902	397	1,962	3,478	1,539	2,486	981	405	11,248
1903	477	2,405	3,481	1,435	2,665	926	518	11,907
1904	450	3,033	4.006	1,722	2,665	924	602	13,402
1905	482	2,623	3,722	1,671	2,943	995	698	13,134

While in isolated years the traffic for several of the sections advances and falls back, the gain through the series of years is evident. Thus in both the west and the east coast of India, though the tonnage for 1905 was notably below that of the previous years, it showed an increase from 3,870,000 tons in 1890 to 6,345,000 in 1905. India in fact has been a large gainer by the canal, as also have been China and Japan. It will be noted that the latter regions since 1900 have shown little average gain. Australia, too, has no phenomenal increase to record. In view of this, while the influence of the Suez Canal on the Indian Ocean may be considered to be supreme and while its aid in the development of eastern Africa is already recognized by the steamship companies increasing their African service, it is far from being demonstrated that Suez will be the dominating force in the commercial control of the Pacific that is to be fought out in the future. The announcement that the British mail for Hongkong has shortened the time a week by abandoning the Suez route for the Canadian overland is already causing speculation, though the cargoes can not be expedited in the same manner as the mails. Whether the Tehuantepec route, which the Mexican Government has opened, will succeed in drawing traffic from the Orient can not be determined until more time has been given to the experiment. The prospective influence of the Panama Canal has been discussed so often as not to need repetition; but while the growth of the Suez traffic in the future may be considered as certain, as in the past, the Far East proportion may have definite limits.

RAILWAY AS A COMPETITOR.

A parallel or rival canal is not practicable, and the only competition that may be looked for in the future will come when the enterprise known as the Bagdad Railway, which is to form a through line from Constantinople to the Persian Gulf, is carried out. This project has been undertaken by German capitalists under concessions from the Turkish Government, but it is involved in the political jealousies and intrigues of the European powers and the necessary capital is not easily raised. The connection of Constantinople with the Persian Gulf is probably fifteen years distant, but when the political jealousies are harmonized and the railway line completed this route may be considered as a competitor with the Suez Canal for the commerce of India.

QUESTION OF FLAGS.

The interest of the United States in the canal transit has no relation to its own flag, since, with the exception of war ships, vessels flying the American colors do not average one a year. But a considerable quantity of the products of the United States is shipped in foreign bottoms direct, in addition to the transshipments from European ports. In 1905 the number of transits from New York was 83, Philadelphia 11, and other ports 2, the aggregate net tonnage being 289,384. The larger numbers of the vessels were petroleum ships. The transits through the canal to American ports were: Baltimore, 10; Boston, 20; Delaware Bay, 9; New York, 75; Philadelphia, 10; and other ports, 5; making a total of 129, with an aggregate tonnage of 449,504.

The question of the flags or the nationality of the ships excites constant discussion and arouses international jealousies. The Suez transits afford as accurate means as exist for measuring the relative growth of the merchant marine of the different nations. The Egyptian Government has published recently, with its official imprint, the statistical returns of navigation through the canal, based on information furnished by the company. The share of the different countries in the Suez traffic for 1905 was as follows:

Transits and tonnage, 1905.

Flag.	Number of transits.	Net tonnage.	Flag.	Number of transits.	Net tonnage.
British	2,484	8,356,940	Danish	23	54,486
German	600	2,113,484	Greek	12	16,248
French	272	844,372	Swedish	8	16,563
Dutch	219	577,731	American	6	13,304
Austrian	139	458,402	Portuguese	5	3,040
Italian	91	189,565	Egyptian	2	1,502
Norwegian	66	116,328	Chinese	1	1,412
Russian	70	177,056	Argentine	1	1,147
Turkish	91	117,289			
Spanish	26	75,236	Total	4,116	13,134,105

The preponderance of British shipping appears from these figures, which show that it furnished two-thirds of the total tonnage, but some of the English shipowners find fault because the percentage is not so great as in previous years. A long series of tables giving the returns from 1882, the first year in which the net tonnage was classified by flags, establishes this relative decrease. Their reproduction in detail is not necessary to exhibit the salient features. The increase in the total net tonnage from 1882 to 1905 was 8,058,000 tons, or 159 per cent. All the leading maritime nations shared in this increase, the proportions being as follows: Great Britain, 103 per cent; France, 197; Italy, 75; Holland, 334; Austria, 420; Germany, 1,561.

It might be said that in 1882 Germany had practically no merchant marine, so that the enormous increase in percentage is not to be taken as a normal one. But since 1895 the progression has been regular, there being only one year in which a falling off in the tonnage from the previous year was shown. It also appears from the statistical returns that while Great Britain's commerce with the countries commonly called the Far East fell from 813,000 tons in 1882 to 636,000 in 1905, or 22 per cent, most of the other countries showed increases varying from 20 to 100 per cent. But Germany's increase was from 25,000 to 161,000 tons, or 544 per cent.

The most significant feature of the Suez Canal traffic at the present time is the evidence it affords of the growth of the German merchant marine and the expansion of German commerce.

China Again Abolishes Opium.

China has again decreed the abolition of the culture of the opium poppy and the use of opium or its products in any of its forms, save medicinal. This action, which comes in the shape of an imperial edict, was the direct result of the report of the Chinese commission appointed to visit this country and Europe, and the edict is signed by the heads of both civil and military affairs. This is not the first attempt of China to free herself from the effects of the opium trade. The first effort was made in 1839. That result led to a war with Great Britain, which profited by the export of opium to China, and as a result of the war the edict was recalled and China had to pay an indemnity of about $6,000,000. The Chinese commission which visited England last year found public sentiment far different from what it was three-quarters of a century ago. Hence the issue of this second edict, the abolition of the opium trade, both in the way of home products and imports.

GERMANY AND ENGLAND.

REMARKABLE TREND OF INTERCHANGE OF COMMODITIES.

The official German summary of the character of the trade between Great Britain and Germany in 1905 is a well-prepared document, the correctness of the actual figures of which the London Times says can not be contested. Continuing, the Times says:

They are, indeed, in most respects preferable to the statistics of our own Board of Trade which, till quite recently, made no attempt to define the real trade between this country and Germany, allowing a great part of that trade to figure as trade with Belgium and Holland. The general conclusion from the German figures is a truly remarkable one, and is well calculated to give rise to the most serious reflections. Germany's imports from Great Britain consist, according to the dispassionate German official statistician, mainly of raw materials and semimanufactured goods for industrial purposes, especially for the textile, leather, and metal industries, while her exports consist mainly of finished goods for consumption, such as sugar, prints and engravings, and the products of the various textile, iron, leather, and wood industries, raw materials and semimanufactured goods being only exported in limited quantities, except in the case of iron.

A detailed consideration of the figures shows that this conclusion is very far from being exaggerated. To take only those given for the textile industries, an addition of the various items shows that we export to Germany some £8,500,000 worth of raw and combed wool and woolen and cotton yarn and only some £1,100,000 of finished piece goods and fabrics, while Germany sends us over £9,300,000 of finished textiles. In addition to this Germany sends us such items as £7,000,000 of sugar, £1,250,000 of prints and engravings, £1,450,000 of hardware, £650,000 of pianos, against which we have to set such exports as £5,400,000 of coal and £3,300,000 of bullion. The only finished article which, apparently, we export to Germany in any considerable quantity is machinery. Raw material and the instruments of industrial competition thus form the great bulk of what we send to Germany, while we receive from her the industrial products made by German skill from those same materials and with those instruments, and in the process furnishing employment and sustenance to a large German industrial population. In other words, we stand to-day in our trade with Germany in the position of an industrially undeveloped country trading with another country on a far higher level of industrial efficiency.

Canadian Herring and Scotch System.

Consul E. N. Gunsaulus, of Rimouski, quotes a report from Ottawa that J. J. Cowie, who has been engaged by the Canadian government the last two seasons demonstrating the Scotch method of herring curing and packing, has accomplished most encouraging results this summer in the Baie des Chaleurs:

Heretofore the fishermen of Gloucester have made no use of the large runs of spring herring, excepting as bait and garden fertilizer. Mr. Cowie, however, with his up-to-date methods of handling this fish, has shown that it has a value equal to the Scotch article, and a pack has been made that will probably realize from $10 to $12 a barrel in New York. Speaking of the fall run, which recently began. Mr. Cowie says he never before saw such herring. The Canadian fish of this class have never commanded a high price, owing to the primitive way in which they have been cured and packed. The fishermen of Baie des Chaleurs, however, have been profiting by the object lesson Mr. Cowie has provided, and are most grateful for the instruction afforded.

MOUNTAIN DAMS IN BOHEMIA.

SERIES OF CONSTRUCTION WORKS FOR BENEFIT OF INDUSTRIES.

According to Consul Charles B. Harris, of Reichenberg, great attention has been and is now given in northern Bohemia to the erection of mountain dams, on which he submits the following report:

The manufacturing establishments in this district are mostly located in valleys, along rivers and their tributaries. The water of these streams flows from one waterwork to another, furnishing power for the industries. The water not only is useful, but, unrestrained, would cause great damage in case of flood. For instance, the flood of 1897 was very destructive, causing a damage of $688,000 in Reichenberg alone. In order to combat these floods a Water Association was formed in 1900, which decided to erect six dams in the region of the river Goerlitz-Neisse near Reichenberg. Five of them have been built at a total cost of $1,475,698, that at Harzdorf costing $160,160, Friedrichswald $326,271, Voigtsbach $109,668, Muehlscheibe $209,699, and at Gablonz $669,900.

These dams not only prevent floods, but supply the different manufacturing establishments with power, and are built in such a manner as to be kept half full, one-half being utilized for the supply of water to operate the factories and the other half to hold back the water in case of a flood.

DIVISION OF COST—OTHER PLANS FOR DAM BUILDING.

Every land or waterwork owner whose plant is located below a dam, or who derives a benefit from the same, must be a member of the association, and the membership contributions are regulated according to the benefit the members derive from the dams, either by protection against damage, use of water, or both. The membership rate varies from $2.03 to $1,015 a year. The money needed to pay the cost of constructing the dams named was partly raised by subvention. The Austrian Government contributed 30 per cent, the Crownland of Bohemia the same amount; the governments of Saxony and the province of German Silesia will pay a subvention of about $166,600, while the balance is to be raised by the membership rates of the association.

The Iser Mountains, near which Reichenberg is located, despite abundant forests, are not capable of holding back heavy rains and other waters. As a result such industrial centers in this consular district as Albrechtsdorf, Dessendorf, Unter-Polaun, Tannwald, and others, have severely suffered, and are now contemplating the erection of dams, the plans of which are being drawn. It is aimed not only to protect the manufacturing establishments, but also the lands of agriculturists, who have also suffered much from an oversupply of water.

Similar dams in the future will be erected in the Giant Mountains, on the Elbe River, and along its tributaries.

Consul-General Henry B. Miller, of Yokohama, advises that the Hokkaido Colliery Steamship Company shows profits for the last half year amounting to $1,092,000 gold, of which $706,000 was paid as a dividend, at the rate of 14 per cent per annum.

SWISS TELEGRAPH AND TELEPHONE.

CONDUCTED ECONOMICALLY AND EFFICIENTLY BY THE GOVERNMENT.

In stating that the Swiss Government owns and operates all the telegraph and telephone lines in the Confederation, Consul R. E. Mansfield, of Lucerne, furnishes the following details as to their management:

The telegraph and telephone service extends to nearly every town and village in the country, and every railway station is supplied with both systems. The service is good and the rates low. They are operated in connection with the postal service, every post-office being provided with telegraphic facilities, and practically all of them with public telephones.

Distances in Switzerland being short, the service prompt, and the rates low, the telegraph and telephones are liberally patronized. Long-distance connections are made with all the local or urban telephone lines, enabling patrons to communicate with all cities and towns in the country. There are also international connections with all the countries bordering on Swiss territory.

A feature of the Swiss telephone service is that in addition to owning and operating all the lines, the Government manufactures all the instruments used, makes the insulations, and controls the business absolutely.

LENGTH OF LINES, REVENUE, AND PROFIT.

The total length of telephone lines in Switzerland is 10,548 miles. The annual rental charge for offices, business houses, and residences is $12.45 per year. An additional charge of one cent is made for each call in the town. For interurban or long-distance calls the rate is 2 to 14 cents for three minutes, according to distance, 14 cents being the maximum rate for any distance in the country.

The number of telephone subscribers in 1906 was 53,711. During the year there were 32,071,177 local, 7,251,193 interurban, and 299,209 international calls over the Government telephones. The revenue from all classes of calls for 1906 was $829,732; income from rent on 53,711 telephones, $668,702. Total, $1,498,434.

The total length of telegraph lines in Switzerland is 66,683 miles. The total number of telegrams transmitted in 1906 was 4,918,679, of which 2,339,956 were international and 1,698,838 local. The total revenue from telegrams for the year was $1,596,664.

There is a Government tax of 30 centimes, equal to a fraction under 6 cents American money, on each telegram sent. In addition to this charge there is a universal rate of one-half cent a word throughout the country, distance not being taken into consideration. A telegram of ten words costs only 11 cents. The international rate is 30 cents per word to New York, 2 cents to France, Germany, Italy, and Austria, 5 cents to Spain, 6 cents to England, and 9 cents to Russia. In addition to the foregoing there is a Government tax of 10 cents on each international telegram or cable.

The total income from telephone and telegraph service for 1906 was $3,095,098; expense, $2,231,217; profit to the Government, $863,881. The telegraph and telephone service, like the Government railways and parcels post, are economically administered, the object being to render the best service possible at the lowest possible cost to the people.

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GEORGIAN BAY CANAL.

FURTHER STEP IN BIG CANADIAN SHIPPING ROUTE ENTERPRISE.

Consul A. G. Seyfert, of Collingwood, advises that the engineer in chief of the Georgian Bay Canal survey has presented to the Dominion Parliament an extensive report of the year's work, which was largely confined to the French River between Georgian Bay and North Bay, a distance of 31 miles. The consul summarizes the report thus:

The approximate estimated cost of the canalization of the French River is $14,000,000. The plan of the Georgian Bay Canal contemplates a ship canal of a depth of 22 feet, and provides for the creation of three reaches between the Georgian Bay and Lake Nipissing by means of locks and dams, the lift of the locks varying from 22 to 24 feet.

The report also contains a general review of the whole scheme from Georgian Bay to Montreal, a distance of 440 miles. It is pointed out that the ascent from Georgian Bay to summit level is 99 feet, while the descent from summit level to Montreal is 659 feet, making a total lockage of 758 feet. This would be overcome by 27 locks, varying in lift from 10 to 50 feet. The report points out that the proposed canal would mean a great saving in distance from the interior to the British market. From Fort William to Liverpool via New York is 4,929 miles, while via the Georgian Bay Canal it would be only 4,123 miles, a saving of 806 miles in favor of the route via the Georgian Bay, Ottawa, and Montreal. The route is also described as practically a chain of deep lakes or wide river expansions, so that the construction of the proposed canal would involve the canalization of only 275 miles, leaving 357 miles of free navigation.

TRANSPORTATION ECONOMY—WATER POWER.

It is computed that the route will be about two days faster for each trip from the head of the lakes to an ocean port than any other route, apart also from its advantages in having an enormous superiority as to carrying capacity. This would naturally have a great tendency to reduce transportation rates on grain and other products, and in case of congestion at the terminal elevators at Port Arthur and Fort William, before the close of navigation, the great depth of the waterway would enable the largest lake boats to reach an ocean port fully loaded without breaking bulk.

The geographical position of the waterway is also excellent, as it will be independent of all international waters, being fed at its summit by waters well within Canadian territory. Its northern latitude would also be of some advantage for the transportation of perishable foodstuff during the hot season, as compared with the southern route through Chicago and the Mississippi River. The canalization of the Ottawa River will also be of distinct benefit by creating practically unlimited water power more than half developed, which will be available for all kinds of industries and from which a revenue could be derived.

One objection made by some of the opponents of the project, that it would freeze up sooner than the St. Lawrence, is met and controverted; but it is pointed out that even if the average closing of Lake Nipissing is two days earlier than Montreal, navigation could easily be maintained by a couple of steel-clad tugs.

KENTISH HOP YIELD.

DISAPPOINTING CROP RESULTS IN AN ENGLISH COUNTY.

Consular Agent F. W. Prescott, of Dover, reports that, although the yield of hops last year in the English county of Kent was somewhat better than in 1906, many gardens proved an entire failure, and were not picked. The consular agent adds:

The prices were also disappointing, and following upon the recent convention of hop growers held at the agricultural college at Wye, an important debate took place recently at the Associated Chamber of Agriculture, when the delegates from Kent and Sussex advocated an import duty of 40 shillings per hundredweight ($9.73 per 112 pounds) on all foreign hops.

In support of this proposal it was pointed out that in 1878 there were 71,000 acres under hop cultivation in this country, which has been reduced to 44,938, and during the past year 202,304 hundredweight of hops were imported, of which America sent 126,122 hundredweight. The resolution for an import duty was supported by other hop-growing districts, but did not find favor with the majority of those present at the meeting and in the end it was withdrawn.

Awarding Contract for Pernambuco's Port Works.

In reference to trade opportunity No. 1838 published in Daily Consular and Trade Reports for January 14, the Brazilian Review advertises the call for tenders for the construction of port works at Pernambuco, to which it had reference. The cost is estimated at $25,000,000. The bids will be opened on March 26 by the Director-General of Public Works at Rio de Janeiro.

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Spaniards (the pineapple growers in the main), can easily produce a fruit and vegetable tonnage for American markets which will soon have an effect upon the prices.

As an illustration, it was announced recently, to the dismay of many, that pineapples were selling at 74 cents a crate in New York. Whether, therefore, some of the Cuban fruit and vegetable product is to rot or all is to be shipped remains to be seen. If the latter, then more carrying capacity must be speedily supplied, for with this tonnage under question, added to the sugar and tobacco, the hard woods, and the miscellaneous cargo which will go on in increasing volume, there must be a great increase in ships of regular lines.

FUTURE AND PRESENT LINES.

There have been many reports in Habana recently as to new steamship lines, but as yet they all seem to be on paper, save one from Boston (The Boston-Cuba Steamship Company), which will inaugurate a service commencing in August. The most likely shipping enterprise discussed is that from Habana to Savannah, Ga.—a line which would afford quick communication with the manufacturing South, and a speedy transit of passengers and freight to and from populous districts south and north of the Ohio River. The cargo for Cuba originating in Georgia and the eastern South is already of very large volume and is increasing steadily.

The present regular passenger and freight service between Habana and United States ports consists of biweekly ships of the Ward Line, one Southern Pacific ship to New Orleans, one weekly Munson Line to Mobile, one United Steamship vessel every ten days to Galveston, Tex., and five Peninsular and Occidental Steamship Company's steamers weekly to Key West, Tampa, and Knights Key, Fla., this being almost exclusively a passenger and mail line. In the autumn and winter the Southern Pacific service is doubled. It is rumored that the Ward Line will next year establish a triweekly service, and if such is to be a fact, it will be an early recognition of the apparently inevitable necessity. For optimistic as may seem the assertions of those who are now figuring on Cuba's future cargo for the United States, it can easily be understood by those who are here watching the development that the present statements are conservative.

A need of the future which will become as pronounced as the necessity for greater carrying capacity from Habana under the realization of the increase of tonnage will be the amplification of the dock and handling facilities of this city. They are almost inadequate at the present time.

Restaurant Opening in Naples.

Consul C. S. Crowninshield writes from Naples that there is a demand for first-class restaurants in that Italian city, to which he adds:

Prices for meals here are fairly high. A good table d'hôte dinner may be had for 6 or 7 francs ($1.15 to $1.35). As wages, rents, and cost of food are low in Naples, I believe that a first-class restaurant would pay very well. Anyone interested in business of this nature will find a good opportunity for investment in this city.

Canals ALTGELD HALL STACKS

CANADIAN COMMERCIAL WATERWAY.

VALUE OF RIDEAU CANAL FOR DISTRIBUTION OF AMERICAN PRODUCTS.

Consul H. D. Van Sant reports that while the commercial importance of the Rideau canal and lakes, leading from Kingston to Ottawa, has largely diminished, its future possibilities and usefulness as a water highway should be noted, particularly as it keeps open a considerable field for the sale of American manufactures and products. The consul's descriptive features follow:

The canal for a distance of 126¼ miles is dotted with small villages and towns visited by large numbers of American fishermen and tourists in the summer and affording for eight months in the year a readily reached market for American coal and kerosene, farming implements, miners' tools and machinery, fishermen's supplies, canned goods, wagons and carriages, wire fencing, hardware, windmills, cheap cotton goods and fabrics, and other staple articles sold to the country trade.

The total income of the canal during the fiscal period of nine months beginning March 31, 1907, was $4,957. In freight 82,159 tons were carried, an increase of 22,295 tons, of which 31,430 tons were the product of the forest and 9,990 tons were coal. The passenger receipts are made up largely from Americans who visit these lakes and canals for sight-seeing and fishing and whose numbers seem to be yearly increasing.

CONSTRUCTION AND USE.

The Rideau canal was commenced in 1823 and completed in about seven years. Before this date engineers sent from England had reported the proposed canal impracticable, but afterwards the project was taken in charge by engineers of the British army stationed in Canada, and to the sapper and miners' corps, aided by the regular soldiers of the British army, belong the credit of final construction.

The canal has cost the Imperial and Canadian governments $4,085,889, and a conservative estimate places the present cost of such a system of locks, dams, and canal at from $20,000,000 to $25,000,000, exclusive of the cost of operation. The repairs to the canal in 1907 amounted to $55,634.

The canal has 35 ascending and 14 descending locks and 39 dams or abutments. One of them, at Jones Falls, is 90 feet in height and includes three sets of locks, while the one at Kingston Mills near Kingston is 60 feet high. The total lockage makes up 282¼ rise and 164 fall at high water. The locks are 134 by 33 feet with a depth in water of 5 feet. The canal breadth at bottom reaches 60 feet in earth and 54 feet in rock, while the breadth of canal at surface of water is 80 feet in earth and rock. The strength of the canal is shown in the fact that there has been no serious breakage in any of the larger locks or dams since its construction.

Before the Lachine and Cornwall canals were built the Rideau was the important commercial waterway between Montreal and Lake Ontario ports by way of the Ottawa River, and its traffic was large and profitable. It was the only route then opened for navigation with the Lakes trade from Montreal that avoided the ascent of the Lachine and other rapids in the St. Lawrence River. Now a railroad connects Ottawa city with Brockville on the St. Lawrence, a shorter route, yet there still remain the markets along the Rideau, easier and cheaper to reach by water than by rail, and in the case of barges saving transshipments and winding, not only through Kingston, Smith Falls, and the Ottawa, but through the Perth Canal and inland through the adjacent country.

JAPANESE INDUSTRIAL CONDITIONS.

MANUFACTURES AND THEIR EXPORTS FOR FIRST HALF OF THIS YEAR.

Consul-General Henry B. Miller, under date of July 8, forwards from Yokohama the following abstracts from a Japanese newspaper on the status of various industries in the Empire:

The import of umbrella cloth is almost exclusively confined to Osaka and Kobe, the annual value of the textile imported amounting to something like $750,000 gold, with an increasing tendency. The article is liable to an excise of 10 per cent ad valorem in addition to a customs duty. Collection of the excise has hitherto been delayed in many cases to save reimbursement of the excise when the stuff is reexported in the form of umbrellas. The finance department has therefore decided to enforce the collection of excise from August 1, when no delay will be permitted. Thus from that date the excise will be collected upon the importation of the umbrella cloth and will be reimbursed only when reexported in the form of umbrellas.

The result of investigations made by a Yokohama silk company shows that in the year ending June 30 the exports of raw silk for America amounted to 70,444 bales, and the figures for Europe to 33,236 bales, making a total of 103,680 bales. Of the exports to America, 43,698 bales were shipped by Japanese firms.

It is not surprising to hear complaints of the financial depression during the half year just closed, when we note that the value of matting exported from Kobe during the period was $1,241,800, being a decrease in value of $175,000 as compared with the corresponding period of last year. During recent years the export of matting made remarkable strides, the value of shipment at Kobe in 1906 reaching $2,907,000. This was checked in the following year, when a falling off of about $250,000 was shown, and the figures for the half year just ended show that decline is again evident. During last autumn, however, there was great activity, which was maintained until the close of the season in March. Upon the completion of the shipment of orders the market then underwent a change and became seriously depressed. [The matting imports into the United States from all Japan in the fiscal year ending June 30, 1908, amounted to $2,816,253, against $2,608,316 in the fiscal year 1907, and $2,646,861 in 1906. The imports from China and Hongkong for the same comparative years were, in value, $1,438,046, $1,083,311, and $1,119,128, respectively.—B. of M.]

Cotton yarn is another trade that has shown much depression during the half year. The total shipment of 98,967 bales (of 400 pounds each) for the last six months shows a decrease of 39,927 bales on the figures for the corresponding period of last year.

As repeatedly stated, the Japanese Government has determined to refrain, as far as practicable, from buying foreign material for Government works. Consequently some influential Japanese and foreign merchants engaged in import business are making inquiries for the purchase of iron or engine works, with the object of entering upon the manufacture of materials required by the Government. As we pointed out some time ago, iron and engine works in Japan are reduced to a trying position in consequence of the trade depression, and these undertakings are to be purchased cheaply. In these circumstances such works are passing into the hands of wealthy business men at comparatively low prices. For instance, Messrs. Takata & Co. have purchased the Meiji Iron Works at Yanagishima, Honjo, Tokyo, for the small sum of $15,000. The new owners have decided to extend the works and establish cast-iron and boiler-making business, and in the event of the experiment proving satisfactory the company intends to establish iron works on a large scale.

Cotton calico and sheeting exported to Manchuria by a syndicate formed by the Mitsui Bussan Kaisha and other firms for a while seemed likely to oust American shirtings from Manchuria, and of late not less than 2,000 bales have been shipped per month. Affected by the drop in silver, however, the sales of Japanese calico in north China became very unsatisfactory, and stocks are now glutting the market, threatening to force down the price. The syndicate has therefore decided to reduce the shipment to 1,000 bales per month during July and August.

COTTON GOODS IN CHINA.

MARKET AT HANKOW—NO PROGRESS IN AMERICAN SALES.

Vice-Consul Albert W. Pontius, of Hankow, in a review of the trade of that Chinese city for 1907, says of the trade in cotton goods:

A general rise during the year 1907 was noticeable in all varieties of cotton piece goods. Heavy stocks that had accumulated in Shanghai, owing to a dull market in the north, were sent on here to supply the demand in Szechuan, which was good. Moreover, certain firms are beginning to hold stocks in Hankow instead of drawing on Shanghai. The difference in cost between Japanese drills and American drills, amounting to nearly 1 tael (79 cents) in favor of the former, caused a brisk demand in this article during the latter half of 1907. Owing to the fact, however, that the Japanese cloth is of an inferior grade the demand is bound to be short-lived, as the Chinese merchant always favors the better-grade article where only a slight difference in price exists and a much inferior brand is offered in competition.

In shirtings, gray, plain, the English manufacturers, as usual, had a clear monopoly of the field; they secured a total share of nearly $1,500,000, or more than 90 per cent of the whole of the entire trade, while the American cotton manufacturers of these lines contented themselves with sales of scarcely $52,000. The English manufacturers showed a large increase over the shipments of the previous year, the American remaining practically stationary. In sheetings, gray, plain, the English trade was also foremost, the imports from the United States amounting to $136,000.

STRONG BRITISH LEAD.

The American manufacturer made no showing in shirtings, white, plain, and figures, while the importations from Great Britain amounted to more than $1,700,000, or 90 per cent of the whole. The United States made the usual excellent showing in drills, taking 65 per cent of a total trade of about $850,000. In jeans the American manufacturer made a very poor showing, the importation dropping down to practically nil. A very small importation of American T cloth appeared during the year, and as this marks the introduction of a popular class of goods, the future is bound to show an increase in this line of goods.

The year in question showed only a small demand for cambrics, lawns, muslins, lenos, and balzarines, so the American manufacturers evidently lost nothing in ignoring this class of goods. Great Britain made an excellent showing in printed and dyed cottons, the United States furnishing only a small share of this class of imports. Taking into consideration that the imports amounted to nearly $2,000,000, it seems strange that the American manufacturers do not give more time and attention to this line. A good trade in dyed turkey reds was experienced, Great Britain securing the bulk of the import trade.

The importation of cotton flannel showed a decrease, the American manufacturers as usual ranking foremost. American velvets show an increase over the preceding year, and a continued increase can be looked for by the American manufacturers. In cotton yarn the Japanese manufacturers secured about 40 per cent of the trade, Indian yarn ranking a close second. In mixtures, such as alpacas and lus-